



The Gold and Silver Spotter

Volume 2, Issue 1
Spring 2011

Our Mission:

“The National Weather Service (NWS) provides weather, hydrologic and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy. NWS data and products form a national information database and infrastructure which can be used by other governmental agencies, the private sector, the public, and the global community.”

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Information Update – Thank You!

Thank you to all of you who took the time to update your information, it was much appreciated! For all those who gave us an email address, you should be receiving this newsletter via email and we hope you enjoy.

For those who are still receiving a paper copy, we would appreciate you sending us an email address so that we can save both paper and money when sending out nearly 600 newsletters.

Due to budget constraints, this will be the last paper

version of the newsletter sent out, unless you let us know that you need a paper copy for reasons such lack of internet access or email at home. You can reach us using any of the contact information available on the back page of the newsletter.

The newsletters will be emailed out quarterly and will also be made available on our new, updated spotter webpage once we finish the redesign.

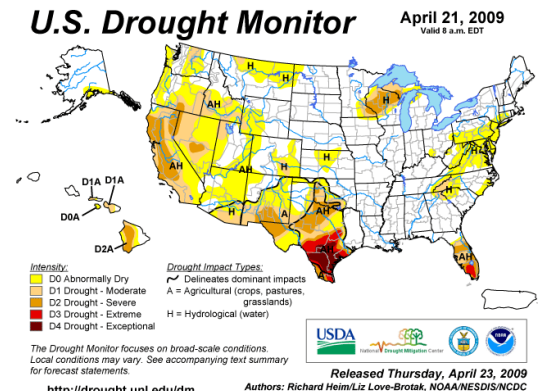
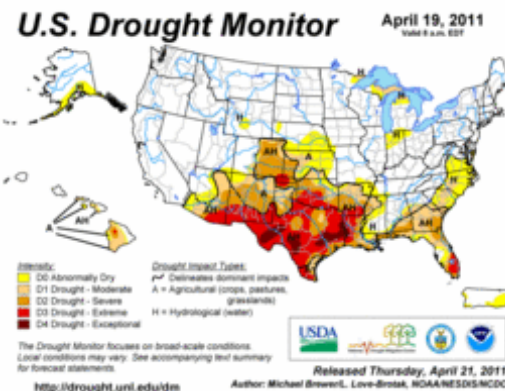
The other bonus of re-

ceiving an electronic copy of the newsletter is it will be in full **COLOR**!

Even though we will be transitioning to email-only newsletters, please also make sure to update your phone number and/or physical address if it has changed. These remain vital pieces of information to help us get in contact with you and ascertain ground truth during significant weather events. This is how we can continue to work together to save both lives and property. Thank you for all you do!

Winter Wrap-Up

This has been a winter for the record books with many basins in the Sierra topping out well above normal for snow water equivalent and ending the drought which has plagued the area for years. The image below on the left is the Drought Monitor as of April 19 and shows that we are drought free across much of the Western United States thanks to a very wet winter. This can be compared to just 2 years ago on April 21, 2009 when we were in a moderate to severe drought across much of the west. For those interested in more information about the Drought Monitor, please follow this link: <http://www.drought.unl.edu/dm/monitor.html>



Spring Flooding Potential

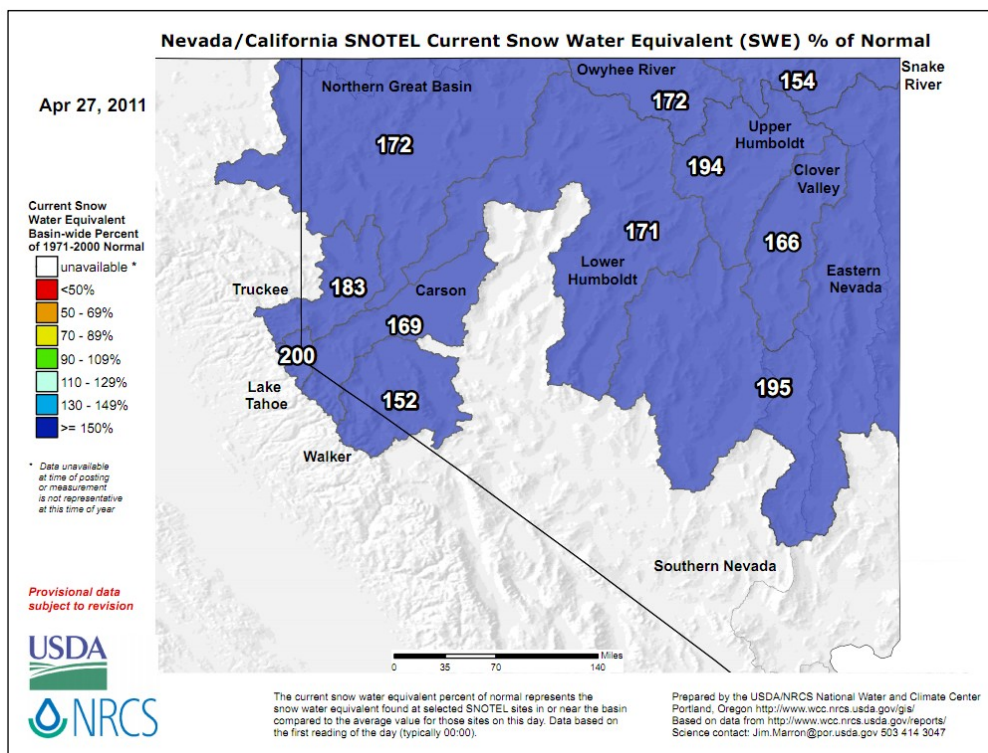
The spring snowmelt flood potential is dependent on several factors which include streamflow forecasts, current soil moisture, reservoir storage, and air temperature during melt (Mid May-Mid June). Presently the spring flood potential outlook is classified as above average in the following areas:

- The East and West Forks as well as the Mainstem of the Carson River and tributaries above Lahontan Reservoir.
- The West and Mainstem Walker River and tributaries above Weber Dam.
- All Tributaries through Mono County and through the Humboldt River Basin.
- Uncontrolled Tributaries along the Truckee River from the Lake Tahoe Basin down to Reno. There is still plenty of storage in Lake Tahoe and Reservoirs with dedicated flood control storage including Stampede, Boca, and Prosser to control flooding along the Mainstem of the Truckee River through Reno and Sparks. Presently streamflow forecasts for all the basins mentioned above are 150-200% of normal due to the bountiful snowpack. Normally some of the snow will melt and be absorbed into the ground and not become part of the runoff, but with well above normal rainfall across the region in October, soils were already saturated heading into this wet winter. Therefore, most all of the snowmelt will be runoff. Area reservoirs have been preparing for this and have all been releasing water to get ready for the incoming snowmelt water. There are several unknowns which could affect the flood potential including air temperature and additional rainfall. If we continue to have below normal to normal temperatures this spring, melt will occur slower and over a longer period, but if we have a sudden and prolonged warm-up, this would increase flood potential. Heavy rain on snow always increases flood risk, but is not expected to occur in the first couple weeks of May. If you live near any of the area creeks, streams, or rivers and notice it is rising quickly, close to bankfull, and/or flooding, please let us know!

River Information: <http://water.weather.gov/ahps2/>

Basins across Eastern California and Nevada are 150-200% of normal for their snow water equivalent!

Note: Snow Water Equivalent (SWE) is the amount of liquid present in the snow.



http://www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/nv_swepctnormal_update.pdf

Severe Weather-Risks and What to Report



A mesocyclone over Fallon, July 21, 2008

Spring and Summer brings about the highest risk of severe weather for us here in the Sierra and Western Nevada. Although many of the days this time of year are beautiful and full of sunshine, it cannot be forgotten the risks thunderstorms can bring such as hail, strong gusty winds, lightning, heavy rain, and even the occasional tornado.

Safety is the number one priority when it comes to storm spotting, so please always make sure you are out of harms way before calling in a report. Some of the items

we would like you to report during severe weather season include, but are not limited to:

- Hail (diameter of largest stone)
- Strong Winds and/or Wind Damage
- Near Continuous Cloud-to-Cloud Lightning
- Heavy Rain (a rate of 1" per hour or greater)
- Any Flooding
- Rotating Thunderstorms (like the Mesocyclone on the left) or rotating funnel clouds
- Tornado on the ground

A Severe Thunderstorm means winds 58 mph or greater and/or hail 1" in diameter or greater

What Brings Thunderstorms to the Local Area?

Three ingredients are needed for thunderstorm development: *Moisture*, *Lift*, and *Instability*. Oftentimes, the lift and instability are provided by the intense daytime heating of summer and the interaction of terrain driven wind patterns. If sufficient moisture is available, then showers and thunderstorms can develop. However, many days we lack moisture and the resulting convection is limited to cumulus cloud buildups or a few showers.

There are three weather patterns recognized for increasing these key ingredients and providing the area with more widespread thunderstorms in addition to an increase in their intensity. The three patterns include: Four Corners High (Monsoon Flow), Negative-tilt Trough, and Closed Upper Low. Each of these patterns leads to more organized convection and oftentimes brings a risk for severe thunderstorms, flash flooding and even wildfires!

- 1) Four Corners High (Monsoon Flow)—High pressure sets up over the Four Corners region. The resulting southeast wind pattern brings monsoon moisture northward from Northern Mexico and the Desert Southwest into Nevada and the Sierra. Thunderstorms often start out dry with the potential for strong microburst winds and new fire starts. If this pattern persists for several days or more, moisture will continue to increase. Storms will become wetter and increase the potential for flash flooding.
- 2) Negative-tilt Trough—Trough moves into the west coast with the southern end of the trough arriving first. These troughs provide an another source of lift in addition to that provided by the daytime heating and terrain. Wind shear contributes to storms in these environments as low level flow turns more to the southeast and helps bring moisture northward from the Desert Southwest. Meanwhile, stronger winds above the mountain ridges help storms better organize. A combination of new fire starts, severe weather, and flash flooding can occur with this pattern.
- 3) Closed Upper Low—Cold front ahead of the system is a source of extra lift and can be a focus for thunderstorms if the moisture is sufficient. More importantly, as the upper low moves overhead, strong surface heating in combination with colder air aloft results in a more volatile atmosphere and an increase in the instability. If enough moisture is available, thunderstorms will be capable of producing hail and heavy rain.

Look out for these three weather pattern in our forecast discussions and outlooks. They will help you key in on thunderstorm days!



Severe Weather and Lightning Safety Awareness Week

June 19-25 is Severe Weather and Lightning Safety Awareness Week here in Eastern California and Western Nevada. Please stay tuned for special messages and announcements each day June 20-24 on NOAA weather radio and the National Weather Service Reno webpage (weather.gov/Reno) regarding this event.

Measuring Hail

When Measuring Hail: Relate to common objects, measure the diameter (not the circumference), and always report the largest stone that fell.



Pea:
1/4 inch



Dime:
1/2 inch



Penny:
3/4 inch



Nickel:
7/8 inch



Quarter:
1 inch



Ping-Pong Ball:
1 1/2 inches



Golf Ball:
1 3/4 inches



Tennis Ball:
2 1/2 inches

Items in red denote severe thunderstorm criteria

The Beaufort Wind Scale

Force	MPH	Knots	Description	Specifications
0	< 1	< 1	Calm	Smoke rises vertically.
1	1-3	1-3	Light Air	Direction of wind shown by smoke drift but not by wind vanes.
2	4-7	4-6	Light Breeze	Wind felt on face; Leaves rustle; Wind vanes moved by wind
3	8-12	7-10	Gentle Breeze	Leaves and small twigs in constant motion; Wind extends light flag.
4	13-18	11-16	Moderate	Raises dust, loose paper; Small branches moved.
5	19-24	17-21	Fresh	Small trees begin to sway
6	25-31	22-27	Strong	Large branches in motion; Whistling heard in telephone wires; Umbrellas used with difficulty.
7	32-38	28-33	Near Gale	Whole trees in motion; Inconvenience felt walking against the wind.
8	39-46	34-40	Gale	Twigs break off trees; Wind generally impedes progress; Mobile homes may shake.
9	47-54	41-47	Strong Gale (Severe Criteria)	Slight structural damage occurs; Mobile homes, sheds, roofs, and RVs suffer minor damage.
10	55-63	48-55	Storm	Small trees uprooted; Moderate damage occurs to mobile homes and RVs; Brick and wood frame houses receive minor structural and roof damage; damage to TV antennas; Some signs blown down.
11	64-73	56-63	Violent Storm	Moderate sized trees uprooted; Large branches snapped off trees; Chimneys and road signs toppled; Significant mobile home damage; Power lines downed.
12	74-95	64-83	Hurricane Category 1	Mobile homes overturned; Large trees and branches downed; Moderate roof damage to wood and brick homes

National Weather Service

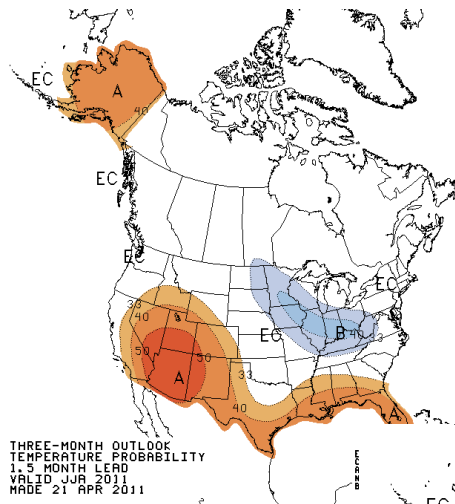
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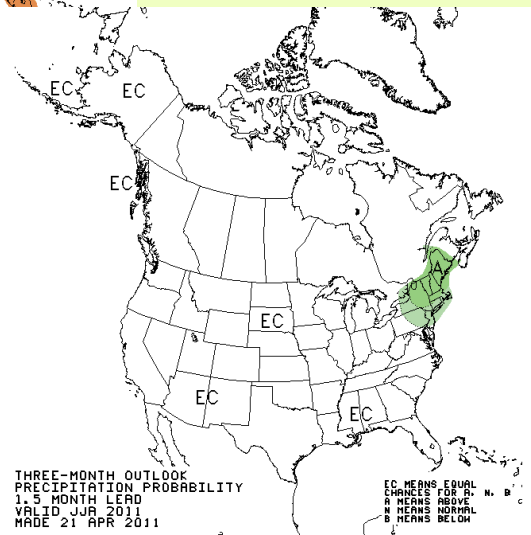
Weather.gov/Reno



Summer Outlook



The Climate Prediction Center (CPC) three month outlook for June, July, and August shows a slight chance of it being warmer than average (left) and equal chances for precipitation (below).



Information on this and more can be found on the CPC website: <http://www.cpc.ncep.noaa.gov/>



Weather Humor Corner

Pickles/Brian Crane

